

## Something Else—the Evolution of Faith-Based Opposition to Teaching Evolution in America's Public Schools

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### Abstract

In 1925 John Thomas Scopes, a high school football coach and substitute teacher in Dayton, Tennessee, was put on trial for teaching Charles Darwin's theory of evolution in a high school biology class, in violation of state law. One of the prosecutors was none other than William Jennings Bryan, former Secretary of State in the Woodrow Wilson administration, three-time Democratic Party presidential nominee, and a leading Christian lay evangelist. Scopes's chief defense lawyer was the most eminent defense attorney of the day, Clarence Darrow. The celebrity status of the two main legal protagonists guaranteed the trial's sensational press coverage. At the conclusion of the trial Scopes, who had initially pleaded not guilty, switched his plea to guilty to guarantee that the case would be appealed, and the trial passed into American history and folklore.

*Inherit the Wind*, the famous play based ever so loosely on the “Scopes Monkey Trial,” was first performed in Dallas on January 10, 1955, and opened on Broadway on April 21, 1955. In the 61 years since, it has been made into a theatrical film and three made-for-TV movies, been revived twice on Broadway, and is a staple for college, high school, and community theater groups.<sup>1</sup>

From some of the dialogue in *Inherit the Wind*, as well as from the costumes of the characters in various productions, one could reasonably infer that 1925 is the year in which the play is set. Yet playwrights Jerome Lawrence and Robert E. Lee wrote that in the play,

“It is not 1925. The stage directions set the time as ‘Not too long ago.’ It might have been yesterday. It could be tomorrow.”<sup>2</sup>

Their point was that the issues raised in the Monkey Trial and on stage were not settled, and perhaps could never have been settled, by a single verdict in a single trial, or perhaps under any circumstances at all. They make the point more explicitly in dialogue near the end of the play, after Bert Cates, the high school biology teacher on trial for teaching evolution, is found guilty of breaking the Tennessee anti-evolution law, yet punished with only a nominal fine. Confused by the trial's outcome, he asks his defense counsel Henry Drummond, the Clarence Darrow stand-in, “Did I win or did I lose?”

<sup>1</sup>Information on Broadway productions of *Inherit the Wind* can be found at the Internet Broadway Database, “Inherit the Wind,” <https://www.ibdb.com/broadway-production/inherit-the-wind-452232> (accessed January 5, 2017). Information on film and television adaptations can be found at the Internet Movie Database, “Results for ‘Inherit the Wind,’” [http://www.imdb.com/find?ref\\_=nv\\_sr\\_fn&q=inherit+the+wind&s=all](http://www.imdb.com/find?ref_=nv_sr_fn&q=inherit+the+wind&s=all) (accessed January 5, 2017). How *Inherit the Wind* diverged from the actual Scopes Monkey Trial is discussed in Edward Larson, *Summer for the Gods* (New York: Basic Books, 2006) Kindle e-book, 239-245.

<sup>2</sup>Lawrence and Lee, *Inherit the Wind*, unnumbered page immediately before the beginning of the actual play.

“You won,” says Drummond.

Cates begins to protest. “But the jury found me—“

But Drummond says, “What jury? Twelve men? Millions of people will say you won. They’ll read in their papers tonight that you smashed a bad law. You made it a joke!”

Moreover, adds Drummond, “You’ve helped the next fellow.”

“What do you mean,” asks Cates.

Drummond answers, “You don’t suppose this thing is ever finished, do you? Tomorrow it’ll be something else—and another fella will have to stand up. And you’ve helped give him the guts to do it!”<sup>3</sup>

Lawrence and Lee were prescient. In 1955, the banning of evolution and the teaching of a literal interpretation of Genesis in the public schools had not yet been ruled unconstitutional by the United States Supreme Court. The attempts to substitute first “Creation Science” and then “Intelligent Design” as substitutes for evolution likewise lay in the future. So too did successive efforts to promote evolution in the face of evolving faith-based opposition. And efforts to either replace evolution with another doctrine or at least require that other doctrines be taught in addition to evolution continue to this day.

This paper, an exercise in legal and intellectual history, traces the development of faith-based alternatives to evolution, including creationism, creation science, intelligent design, and “balanced” approaches to coupling evolution with various alternatives. Emphasis herein is placed on the contents of alternatives to evolution, and to the responses elicited from the courts to attempts to teach them in the public schools. It will be shown that there is, and no doubt will continue to be, regardless of what decision may be made in a particular court case, always “something else.”

The publication of Charles Darwin’s *Origin of Species* met significant, but by no means universal, faith-based skepticism. Naturally fundamentalists—those who believed in a literal interpretation of the Bible—were offended by the thought that man was descended from a lower order of primates. One early confrontation has taken on mythic dimensions. In 1860, Samuel Wilberforce, the Anglican Bishop of Oxford, England, debated, or at least participated in a discussion with, Thomas Henry Huxley, naturalist and one of Darwin’s chief supporters, before a meeting of the British Association for the Advancement of Science at the Oxford University Museum of Science. As a typical version of the story goes, in the course of their debate,

“Wilberforce ‘begged to know whether it was through his grandfather or his grandmother that [Huxley] claimed his descent from a monkey.’

“While the audience roared with glee, Huxley whispered to a neighbor, ‘The Lord hath delivered him into my hands;’ then he rose slowly to his feet and answered: ‘If, then, the question is put to me, would I rather have a miserable ape for a grandfather, or a man highly endowed by nature and possessing great means and influence, and yet who employs those faculties and that influence for the mere purpose of introducing ridicule into a grave scientific discussion—I unhesitatingly affirm my preference for the ape.’”<sup>4</sup>

Less well known is the degree to which evangelical Christians, especially in America, accepted Darwin’s work on publication. Especially noteworthy were the efforts of Asa Gray, Professor of Botany at Harvard and a friend of Darwin, who took it upon himself to supervise the publication of an American edition of *On The Origin of Species* and secure Darwin’s royalties for him. Gray was a believer in natural theologian William Paley’s assertion that all plants, animals, and people seemed to have been designed to fit their environments, and the appearance of design implied the existence of an Intelligent Designer:

“The marks of design are too strong to be gotten over. Design must have a designer. That designer must have been a person. That person is GOD.”<sup>5</sup>

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<sup>3</sup> Lawrence and Lee, *Inherit the Wind*, 122-123.

<sup>4</sup> Isaac Asimov, *Asimov’s New Guide to Science* (New York: Penguin Books, 1984), 713-714. Similar versions of the encounter can be found in Bill Bryson, \**A Short History of Nearly Everything* (New York: Broadway Books, 2003), 393-394, and David N. Livingstone, *Darwin’s Forgotten Defenders: The Encounter between Evangelical Theology and Evolutionary Thought* (Vancouver, British Columbia: Regent College Publishing, 1997), 33-34.

<sup>5</sup> William Paley, *Natural Theology* (San Bernardino, California: 2012), 163. In pages 1-6 Paley develops his famous watchmaker analogy—a watch implies a watchmaker; whatever is designed implies a designer.

Paley's theory was a forerunner of Intelligent Design, developed in the 1980s and '90s to refute evolution. Yet Gray saw no conflict between Paley's views and those of Darwin. To the contrary, he accepted Darwin's work as explaining how God designed His creation.<sup>6</sup> Many modern denominations likewise accept Darwin's work as accurate science not in conflict with Christianity or other faiths. They consider the Bible allegorical and accept evolution, considering God the Creator and evolution the humanly discernable means by which He creates.<sup>7</sup>

But more conservative Christian creationists interpret the Book of Genesis to say that God created each species of animal suddenly and independently of all others, and created man to exercise dominion over all other life. They further note that Darwin, an agnostic, made almost no mention of God in *On The Origin of Species* other than in a perfunctory reference, in the last sentence of the book, to "life, with its several powers, having been originally breathed by the Creator into a few forms or into one..."<sup>8</sup> The apparent conflict between Darwin's views and Genesis, and Darwin's failure to attribute to God any meaningful role in evolution, lead creationists to see evolution as leading to agnosticism and atheism, thereby undermining the authority of the Bible and promoting atheism. As William Jennings Bryan wrote, "We believe that faith in a Supreme Being is essential to civilization as well as to religion and that abandonment of God means ruin to the world and chaos to society."<sup>9</sup> But "Those who teach Darwinism are undermining the faith of Christians; they are raising questions about the Bible as an authoritative source of truth; they are teaching materialistic views that rob the life of the young of spiritual values."<sup>10</sup>

In fact, some believers in evolution do link it to atheism. Evolutionary biologist Richard Dawkins, for example, has written that Darwin, by providing an explanation for the development of life on earth without mentioning God, "had made it possible to be an intellectually fulfilled atheist."<sup>11</sup> An atheist himself, Dawkins has described the universe as "neither evil nor good in intention. It would manifest no

intentions of any kind. In a universe of physical forces  
and genetic replication, some people are going to get hurt,  
other people are going to get lucky, and you won't find  
any rhyme or reason in it, nor any justice. The universe  
that we observe has precisely the properties we should  
expect if there is, at bottom, no design, no purpose, no evil  
and no good, nothing but blind, pitiless indifference."<sup>12</sup>

Such sentiments have spurred fundamentalist Christians to challenge the teaching of evolution in America's public schools by offering as alternatives creationism and creation science. Moreover social conservatives, who do not necessarily consider themselves fundamentalists, have developed an additional theory, Intelligent Design, which rejects the more theologically liberal Christian belief that evolution is God's means of creation,

<sup>6</sup>Gray's acceptance of evolution as consistent with design is documented in Livingston, 63-64, and in A. Hunter Dupree, Asa Gray: *American Botanist, Friend of Darwin* (Baltimore: Johns Hopkins University Press, 1959), 136-137, and 276-277.

Gray also discusses his views in Asa Gray, *Darwiniana; Essays and Reviews Pertaining to Darwinism* (Memphis, Tennessee: General Books, 2010), 5-80.

<sup>7</sup>Pew Research Center, "Religious Groups' Views on Evolution, <http://www.pewforum.org/2009/02/04/religious-groups-views-on-evolution/> (accessed January 5, 2017).

<sup>8</sup>Charles Darwin, *The Origin of Species* (New York: The Modern Library, undated), 374.

<sup>9</sup> William Jennings Bryan, "God and Evolution," in Gail Kennedy, ed., *Evolution and Religion: The Conflict between Science and Theology in Modern America* (Lexington, Massachusetts: D. C. Heath and Company, 1968), 29. Bryan's article was initially published in *The New York Times*, February 26, 1922.

<sup>10</sup>Ibid., 28.

<sup>11</sup>Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe without Design* (New York: W. W. & Norton & Co., 1986), Kindle e-book, Loc. 265.

<sup>12</sup>Richard Dawkins, *River out of Eden: A Darwinian View of Life* (New York: Basic Books, 1995), Kindle e-book, 132. (Darwin's quote can be found in any edition of *The Origin of Species*. Of the numerous books discussing the relationship between atheism and evolution, a representative sample would include Lee Strobel, *The Case for a Creator: A Journalist Investigates Scientific Evidence That Points toward God* (Grand Rapids, MI: Zondervan, 2004), and Kenneth R. Miller, *Finding Darwin's God: A Scientist's Search for Common Ground Between God and Evolution* (New York: HarperCollins Books, 2000). Strobel and Miller are both devout Christians. Strobel rejects evolution in favor of Intelligent Design, while Miller is one of America's leading defenders of evolution.

yet which they claim to be different from creationism, although this assertion is widely disputed by supporters of the teaching of evolution today. Each of these theories will be examined.

“Creationism,” as the term is used in this paper, is the doctrine that the creation story in the Book of Genesis is literally true. The Institute for Creation Research claims:

- “The Creator of the universe is a triune God: Father, Son, and Holy Spirit. There is only one eternal and transcendent God, the source of all being and meaning, and He exists in three Persons, each of whom participated in the work of creation.”
- “The Bible, consisting of the thirty-nine canonical books of the Old Testament and the twenty-seven canonical books of the New Testament, is the divinely-inspired revelation of the Creator to man. Its unique, plenary, verbal inspiration guarantees that these writings, as originally and miraculously given, are infallible and completely authoritative on all matters with which they deal, free from error of any sort, scientific and historical as well as moral and theological.
- “All things in the universe were created and made by God in the six literal days of the Creation Week described in Genesis 1:1-2:3,... and confirmed in Exodus 20:8-11... **The creation record is factual, historical, and perspicuous; thus all theories of origins or development that involve evolution in any form are false...**(emphasis added).
- “The first human beings, Adam and Eve, were specially created by God, and all other men and women are their descendants...”<sup>13</sup>

The most famous attempt to block the teaching evolution—at least the evolution of human beings from lower forms of life—in favor of creationism was the Butler Act, adopted by the Tennessee state legislature in 1925, and named for its originator and sponsor, farmer and state representative John Washington Butler. It read:

“AN ACT prohibiting the teaching of the Evolution Theory in all the Universities, Normals and all other public schools of Tennessee, which are supported in whole or in part by the public school funds of the State, and to provide penalties for the violations thereof.

Section 1. *Be it enacted by the General Assembly of the State of Tennessee*, That it shall be unlawful for any teacher in any of the Universities, Normals and all other public schools of the State which are supported in whole or in part by the public school funds of the State, to teach any theory that denies the story of the Divine Creation of man as taught in the Bible, and to teach instead that man has descended from a lower order of animals.

Section 2. *Be it further enacted*, That any teacher found guilty of the violation of this Act, Shall be guilty of a misdemeanor and upon conviction, shall be fined not less than One Hundred \$ (100.00) Dollars nor more than Five Hundred (\$ 500.00) Dollars for each offense.”<sup>14</sup>

The American Civil Liberties Union chose to challenge Butler’s constitutionality if someone admitting to teaching evolution in a Tennessee public high school could be found. A group of businessmen and lawyers in Dayton persuaded the local high school football coach, John T. Scopes, to claim he had taught evolution while serving as a substitute biology teacher. He initially pled not guilty, thereby setting the stage for the dramatic showdown between special prosecutor William Jennings Bryan and Clarence Darrow, one of the defense attorneys. But at the conclusion of the trial, to expedite an appeal to the state Supreme Court, Scopes’s defense team had him switch his plea to guilty, thereby guaranteeing a conviction which could be appealed.<sup>15</sup>

The Tennessee Supreme Court ruled that the Butler Act was constitutional. In the majority opinion, the Court rejected any idea that Scopes had been denied any rights under either the Tennessee or U. S. Constitution: Scopes

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<sup>13</sup> The Institute for Creation Research, “Principles of Biblical Creationism,” <http://icr.org/tenets> (accessed December 20, 2016).

<sup>14</sup> UMKC School of Law, “Tennessee Evolution Statutes,” Tennessee Anti-Evolution Statute, CHAPTER NO. 27, House Bill No. 185, <http://law2.umkc.edu/faculty/PROJECTS/FTRIALS/scopes/TENNSTAT.HTM> (accessed December 20, 2016).

<sup>15</sup>All aspects of the case are discussed in Larson, *Summer for the Gods*, the Pulitzer Prize-winning history of the case.

"was a teacher in the public schools of Rhea county (sic). He was an employee of the State of Tennessee or of a municipal agency of the State. He was under contract with the State to work in an institution of the State. He had no right or privilege to serve the State except upon such terms as the State prescribed. His liberty, his privilege, his immunity to teach and proclaim the theory of evolution, elsewhere than in the service of the State, was in no wise touched by this law."<sup>16</sup>

The Court added that not only was Scopes free to teach evolution anywhere and everywhere except in a public school classroom, he was not required to teach anything else which might be contrary to his own beliefs:

"As the law thus stands, while the theory of evolution of man may not be taught in the schools of the State, nothing contrary to that theory is required to be taught."<sup>17</sup>

The Court further denied the religious significance of the Butler Act:

"We are not able to see how the prohibition of teaching the theory that man has descended from a lower order of animals gives preference to any religious establishment or mode of worship. So far as we know, there is no religious establishment or organized body that has in its creed or confession of faith any article denying or affirming such a theory. So far as we know, the denial or affirmation of such a theory does not enter into any recognized mode of worship. Since this cause has been pending in this court, we have been favored, in addition to briefs of counsel and various amici curiae, with a multitude of resolutions, addresses, and communications from scientific bodies, religious factions, and individuals giving us the benefit of their views upon the theory of evolution. Examination of these contributions indicates that Protestants, Catholics, and Jews are divided among themselves in their beliefs, and that there is no unanimity among(sic) the members of any religious establishment as to this subject. Belief or unbelief in the theory of evolution is no more a characteristic of any religious establishment or mode of worship than is belief or unbelief in the wisdom of the prohibition laws. It would appear that members of the same churches quite generally disagree as to these things."<sup>18</sup>

Nonetheless the Tennessee Supreme Court reversed the conviction on a technicality: Once Scopes pleaded guilty, the judge had sentenced him to pay a fine of \$100.00, the minimum mandated by the Butler Act. But, noted the court, the Tennessee Constitution said that only a jury could impose a fine greater than \$50.00. The court further noted that it was

"informed that the plaintiff ...is no longer in the service of the State. We see nothing to be gained by prolonging the life of this bizarre case. On the contrary, we think the peace and dignity of the State, which all criminal prosecutions are brought to redress, will be better conserved by the entry of a *nolle prosequi* herein. Such a course is suggested to the Attorney-General."

It therefore directed, as recommended by the state Attorney General, that no further efforts be made to prosecute Scopes.<sup>19</sup>

While the Butler Act remained Tennessee law for another forty years, nobody else was ever prosecuted for teaching evolution in Tennessee's public schools. But in 1967, in Jacksboro, Tennessee, school teacher Gary L. Scott was fired for allegedly telling his students that "The Bible was just a bunch of fairy tales." He promptly went to court over his dismissal, claiming his First Amendment free speech rights had been violated. Although he was promptly reinstated with full back pay, he nonetheless brought suit in federal court seeking a permanent

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<sup>16</sup>UMKC School of Law, "Decision on Scopes' Appeal to the Supreme Court of Tennessee," John Thomas Scopes v. The State, <http://law2.umkc.edu/faculty/projects/trials/scopes/statcase.htm> (accessed December 20, 2016).

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> Ibid.

injunction against enforcing the Butler Act. The Tennessee legislature had already begun to consider its repeal, and ultimately both houses of the legislature passed, and the Governor signed, a brief, curt bill repealing Butler.<sup>20</sup>

Yet creationist-inspired anti-evolution laws remained on the books in other states, notably Arkansas, where the next major challenge to creationism originated. The Arkansas law, passed by initiative in 1928, also banned the teaching of “the theory or doctrine that mankind ascended or descended from a lower order of animals.” But it also more explicitly discussed textbooks as well, stating that it was unlawful for publicly funded schools to adopt or use textbooks that support evolution.<sup>21</sup> Although nobody had ever been prosecuted for teaching evolution in Arkansas, the decision of a school district to adopt a textbook with material on evolution prompted the Arkansas Education Association, with the support of the ACLU, to challenge the Arkansas law in court. Selected to be the nominal plaintiff was a young biology teacher, Susan Epperson, known for her devout Christian faith.<sup>22</sup>

Like its Tennessee counterpart, the Arkansas Supreme Court upheld the law in question, claiming that to prescribe the public school curriculum was the state’s legitimate right. But the U. S. Supreme Court not only rejected the Arkansas Supreme Court’s reasoning, but the Tennessee Supreme Court’s argument that the Butler Act did not mandate the teaching of fundamentalism as well. To the contrary, it ruled the banning of evolution was to promote creationism and especially

“the belief of some that the Book of Genesis must be the exclusive source of doctrine as to the origin of man. No suggestion has been made that Arkansas’ law may be justified by considerations of state policy other than the religious views of some of its citizens...It is clear that fundamentalist sectarian conviction was and is the law’s reason for existence.”<sup>23</sup>

The Supreme Court’s decision in Epperson prompted evolution’s faith-based opponents to abandon attempts to ban the teaching of evolution or substitute creationism for evolution. Rather, they began to insist that if evolution were to be taught, then equal emphasis be placed on creationism. To that end, the Tennessee legislature, having repealed the Butler Act, passed in 1973 a law saying that

“Any biology textbook used for teaching in the public schools, which expresses an opinion of, or relates a theory about origins or creation of man and his world shall be prohibited from being used as a textbook in such system unless it specifically states that it is a theory as to the origin and creation of man and his world and is not represented to be scientific fact. Any textbook so used in the public education system which expresses an opinion or relates to a theory or theories shall give in the same text-book and under the same subject commensurate attention to, and an equal amount of emphasis on, the origins and creation of man and his world as the same is recorded in other theories, including, but not limited to, the Genesis account in the Bible. ..The teaching of all occult or satanical beliefs of human origin is expressly excluded from this Act.”

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<sup>20</sup> The Scott case is discussed in Larson, *Summer for the Gods*, 250-251. The statute repealing the Butler Act can be found at UMKC School of Law, Tennessee Anti-evolution Statute, <http://law2.umkc.edu/faculty/PROJECTS/FTRIALS/scopes/TENNSTAT.HTM> (accessed December 20, 2016).

<sup>21</sup> The background of the law and its passage are discussed in Cal Ledbetter, Jr., :The Antievolution Law: Church and State in Arkansas, *The Arkansas Historical Quarterly*, Vol. 38, No. 4 (Winter, 1979), 299-327,[http://www.jstor.org/stable/40023640?seq=1#page\\_scan\\_tab\\_contents](http://www.jstor.org/stable/40023640?seq=1#page_scan_tab_contents), (accessed December 22, 2016), and R. Halliburton, “Arkansas’ Anti-Evolution Referendum,” *Proceedings of the Oklahoma Academy of Science for 1964* (1964), 159-166, [http://digital.library.okstate.edu/OAS/oas\\_pdf/v45/p159\\_166.pdf](http://digital.library.okstate.edu/OAS/oas_pdf/v45/p159_166.pdf) (accessed December 22, 2016).

<sup>22</sup> The Epperson case is discussed in Larson, *Summer for the Gods*, 249-256. Epperson’s background is discussed in ACLU, “Reconciling Faith and Evolution in the Classroom: A conversation with Susan Epperson, 42 Years Later,” <https://www.aclu.org/other/reconciling-faith-and-evolution-classroom-conversation-susan-epperson-42-years-later> (accessed December 20, 2016).

<sup>23</sup> Legal Information Institute, *Epperson v. Arkansas* 293 U.S. 97, <https://www.law.cornell.edu/supremecourt/text/393/97>(accessed December 20, 2016).

This approach was rejected by both a federal appellate court and the Tennessee Supreme Court as unconstitutional under the First Amendment's Establishment clause.<sup>24</sup>

So too was an approach that mandated balanced treatment of evolution and "creation science," the doctrine that a literal interpretation of the Book of Genesis is supportable by science. Defining the basic tenets of creation science, The Institute for Creation Research asserts:

- "The physical universe of space, time, matter, and energy has not always existed, but was supernaturally created by a transcendent personal Creator who alone has existed from eternity.
- "The phenomenon of biological life did not develop by natural processes from inanimate systems but was specially and supernaturally created by the Creator.
- "Each of the major kinds of plants and animals was created functionally complete from the beginning and did not evolve from some other kind of organism. Changes in basic kinds since their first creation are limited to "horizontal" changes (variations) within the kinds, or "downward" changes (e.g., harmful mutations, extinctions).
- "The first human beings did not evolve from an animal ancestry, but were specially created in fully human form from the start. Furthermore, the "spiritual" nature of man (self-image, moral consciousness, abstract reasoning, language, will, religious nature, etc.) is itself a supernaturally created entity distinct from mere biological life."<sup>25</sup>

Believers in Creation Science distinguish it from Creationism by asserting the Creation Science is based on science, while Creationism is based on faith. Yet the Institute for Creation Research says its "scientific" work is conducted within a framework set by Creationism and may not produce results which contradict Creationism:

"The Institute for Creation Research is unique among scientific research organizations. Our research is conducted within a biblical worldview, since ICR is committed to the absolute authority of the inerrant Word of God. The real facts of science will always agree with biblical revelation because the God who made the world of God inspired the Word of God.

"All origins research must begin with a premise. ICR holds that the biblical record of primeval history in Genesis 1–11 is factual, historical, and clearly understandable and, therefore, that all things were created and made in six literal days. Life exists because it was created on Earth by a living Creator. Further, the biblical Flood was global and cataclysmic, and its after-effects therefore explain most of the stratigraphic and fossil evidence found in the earth's crust. It is within this framework that ICR research is conducted."<sup>26</sup>

The distinction, if any, between creationism and creation science was lost on the federal courts, which declared unconstitutional laws passed by Arkansas and Louisiana in 1981 mandating "balanced treatment for creation-science and evolution-science." Each law said that "balanced treatment" must be accorded both "evolution-science" and "creation-science" in classroom lectures and in all teaching materials. Both acts stressed that no student could be discriminated against on the basis of which "model" he accepted, and also that religion could not be taught in the classroom—only material based on science was permissible.<sup>27</sup> Notwithstanding the laws'

<sup>24</sup> The text of the law in question is included in the decision of the United States Court of Appeals, Sixth Circuit, which struck it down. *Daniel v. Waters*, 515 F.2d 485 (6<sup>th</sup> Cir. 1975) <http://www.talkorigins.org/faqs/daniel-v-waters.html> (accessed December 20, 2016). The decision of the Tennessee Supreme Court to also declare the law unconstitutional was issued in *Steele v. Waters*, 527 S.W.2d 72 (Tennessee Supreme Court 1975). <http://www.talkorigins.org/faqs/steele-v-waters.html> (accessed December 20, 2016).

<sup>25</sup> Institute for Creation Research, "Principles of Scientific Creationism," <http://www.icr.org/tenets> (accessed December 20, 2016).

<sup>26</sup>Institute for Creation Research, "ICR's Approach to Scientific Investigation," <http://www.icr.org/how-we-do-research> (accessed December 20, 2016).

<sup>27</sup>The text of the Louisiana act can be found at RationalWiki, "Text of Louisiana Balanced Treatment for Creation-Science and Evolution Science,"[http://rationalwiki.org/wiki/Text\\_of\\_Louisiana\\_Balanced\\_Treatment\\_for\\_Creation-Science\\_and\\_Evolution\\_Science](http://rationalwiki.org/wiki/Text_of_Louisiana_Balanced_Treatment_for_Creation-Science_and_Evolution_Science)

explicit rejection of religious indoctrination, federal courts ruled both laws unconstitutional promotions of religion. Arkansas's law was struck down in 1982 by a U. S. District Court in *McLean v. Arkansas Board of Education*.<sup>28</sup> Five years later, the Louisiana law was declared unconstitutional by the United States Supreme Court in *Edwards v. Aguillard*. The Supreme Court wrote that it

“advances a religious doctrine by requiring either the banishment of evolution from public school classrooms or the presentation of a religious viewpoint that rejects evolution in its entirety...The Act violates the Establishment Clause of the First Amendment because it seeks to employ the symbolic and financial support of government to achieve a religious purpose.”<sup>29</sup>

The rejection of the teaching of creationism or creation science, whether instead of or in addition to, the teaching of evolution, prompted the development of the doctrine of Intelligent Design (ID). The degree to which ID is a scientific or a religious doctrine remains the subject of hot debate.

The Discovery Institute, the Seattle, Washington, think tank which has developed ID, says:

“The theory of intelligent design holds that certain features of the universe and of living things are best explained by an intelligent cause, not an undirected process such as natural selection. Through the study and analysis of a system's components, a design theorist is able to determine whether various natural structures are the product of chance, natural law, intelligent design, or some combination thereof. Such research is conducted by observing the types of information produced when intelligent agents act. Scientists then seek to find objects which have those same types of informational properties which we commonly know come from intelligence.”<sup>30</sup>

In other words, ID is based on the idea that if something looks designed by an intelligent being of some sort, it may well be, and if it has been designed, as Paley would also argue, there must therefore be a designer.

As noted earlier, this was also the view of Dr. Asa Gray and other Christians. But where the developers of modern ID theory differ from Dr. Gray and other Christian supporters of evolution is that Dr. Gray saw evolution as the means by which God designed life on earth, while supporters of modern ID claim that Whoever designed life did so directly, and without evolution.

Critics of ID maintain ID is simply another version of creationism. Yet both believers in ID as well as creationists vehemently deny this. An article posted on the Discovery Institute's website claims that:

“Creationism is focused on defending a literal reading of the Genesis account, usually including the creation of the earth by the Biblical God a few thousand years ago. Unlike creationism, the scientific theory of intelligent design is agnostic regarding the source of design and has no commitment to defending Genesis, the Bible, or any other sacred text. Instead, intelligent design theory is an effort to empirically detect whether the ‘apparent design’ in nature

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Science\_and\_Evolution-Science\_Act (accessed December 20, 2016), and that of the Arkansas act can be found at Antievolution: The Critic's Resource, “*McLean v. Arkansas* Documentation Project, [http://www.antievolution.org/projcdts/mcclean/new\\_site/ega\\_590.htm](http://www.antievolution.org/projcdts/mcclean/new_site/ega_590.htm) (accessed December 20, 2016).

<sup>28</sup>The text of the decision can be found *McLean v. Arkansas Board of Education*, 529 F. Supp. 1255, 1258-1264 (ED Ark. 1982), <http://www.talkorigins.org/faqs/mclean-v-arkansas.html> (accessed December 20, 2016).

<sup>29</sup>The text of the decision can be found at *Edwards v. Aguillard* 482 U.S. 578 (1987), <https://www.law.cornell.edu/supremecourt/text/482/578> (accessed December 20, 2016).

<sup>30</sup>The Center for Science and Culture, “Definition of Intelligent Design,” IntelligentDesign.org, <http://www.intelligentdesign.org/whatisid.php> (accessed January 4, 2017). The Center for Science and Culture is a division of the Discovery Institute. Other works important in the development of Intelligent Design include books by Phillip R. Johnson, including *Darwin on Trial* (Downers Grove, Illinois: InterVarsity Press 1993), and *Defeating Darwinism by Opening Minds* (Downers Grove, Illinois: InterVarsity Press, 1997). Phillip Johnson was one of the earliest advocates and developers of Intelligent Design theory.

observed by biologists is genuine design (the product of an organizing intelligence) or is simply the product of chance and mechanical natural laws.<sup>31</sup>

Believers in creation science and creationism agree. They note that because ID does not accept a fundamentalist interpretation of Genesis and is “agnostic” on the identity of the Intelligent Designer, ID “is not synonymous with Biblical creation and is absolutely not a substitute for it.”<sup>32</sup>

Yet other evidence suggests that ID was intended to be a “substitute” for creationism and creation science. “The Wedge,” the Discovery Center’s prospectus for the development and propagation of Intelligent Design, says,

“The proposition that human beings are created in the image of God is one of the bedrock principles on which Western Civilization was built. Its influence can be detected in most, if not all, of the West’s greatest achievements, including representative democracy, human rights, free enterprise, and progress in the arts and sciences.”<sup>33</sup>

Yet Karl Marx, Sigmund Freud, and, yes, Charles Darwin undermined this concept by portraying “humans not as moral and spiritual beings, but as animals or machines who inhabited a universe ruled by purely impersonal forces and whose behavior and very thoughts were dictated by the unbending forces of biology, chemistry, and environment.”<sup>34</sup>

Among the deleterious consequences were the erosion of a sense of personal responsibility; the evolution of policies in criminal justice, product liability, and welfare based on the premise that everyone is a victim and no one is accountable; and “a virulent strain of utopianism” promoting the growth of more coercive government to “create heaven on earth.”<sup>35</sup>

Therefore, the

Discovery Institute’s Center for the Renewal of Science and Culture seeks nothing less than the overthrow of materialism and its cultural legacies. Bringing together leading scholars from the natural sciences and those from the humanities and social sciences, the Center explores how new developments in biology, physics and cognitive science raise serious doubts about scientific materialism and have re-opened the case for a broadly theistic understanding of nature.<sup>36</sup>

The closer links between ID and creationism were discovered during the course of the 2005 trial in the case of Kitzmiller vs. Dover Area School District. In 2004 a group of parents of children attending the Dover, Pennsylvania public schools had sued the district over the following statement which the district’s Board of Education required be read in biology classes, arguing that Intelligent Design was merely a new form of creationism and the statement, by urging children to study Intelligent design, was the unconstitutional promotion of religion:

“The Pennsylvania Academic Standards require students to learn about Darwin’s Theory of Evolution and eventually to take a standardized test of which evolution is a part.

<sup>31</sup>John G. West, “Intelligent Design and Creationism Just Aren’t the Same,” The Discovery Institute, <http://www.discovery.org/a/1329> (accessed January 4, 2017).

<sup>32</sup>Blair Benjamin, “Creation and Intelligent Design: God vs. god: Should the church be enthusiastic about the ID movement?” Answers in Genesis, <https://answersingenesis.org/intelligent-design/creation-and-intelligent-design-god-vs-god/> (accessed January 4, 2017).

<sup>33</sup>Center for the Renewal of Science & Culture, Discovery Institute, “The Wedge,” <https://ncse.com/creationism/general/wedge-document> (accessed January 4, 2017). Drafted in 1998 by Discovery Institute staff, “The Wedge” has been used by supporters of evolution, including the National Center for Science Education, to claim that ID is really religious dogma, contrary to the Discovery Institute’s claims that ID is a scientific theory only. The Discovery Institute offers a rebuttal to its accusers in “The ‘Wedge Document’: So What,” written in 2003 and posted at <http://www.discovery.org/a/2101> (accessed January 4, 2017).

<sup>34</sup> Ibid.

<sup>35</sup>Ibid.

<sup>36</sup>Ibid.

“Because Darwin’s Theory is a theory, it continues to be tested as new evidence is discovered. The Theory is not a fact. Gaps in the Theory exist for which there is no evidence. A theory is defined as a well-tested explanation that unifies a broad range of observations.

“Intelligent Design is an explanation of the origin of life that differs from Darwin’s view. The reference book, *Of Pandas and People*,<sup>37</sup> is available for students who might be interested in gaining an understanding of what Intelligent Design actually involves.

“With respect to any theory, students are encouraged to keep an open mind. The school leaves the discussion of the Origins of Life to individual students and their families. As a Standards-driven district, class instruction focuses upon preparing students to achieve proficiency on Standards-based assessments.”<sup>38</sup>

Witnesses for the Dover School Board, seeking to show ID was a legitimate scientific theory, included representatives from the Discovery Institute, including Philip Johnson, biochemist Michael Behe, of Lehigh University in Pennsylvania, and biochemist Scott Minnich, of the University of Idaho.

Yet federal judge John E. Jones, III, presiding over the case in a bench trial, declared that ID was merely an updated form of creationism and therefore its advocacy by the Dover School Board was unconstitutional. Judge Jones noted that The Wedge clearly indicated the religious basis of the ID movement. Moreover, noted Jones, a content analysis of *Of Pandas and People*, claimed by the Dover School Board as an ID-based text,

“showed (1) the definition for creation science in early drafts is identical to the definition of ID; (2) cognates of the word creation (creationism and creationist), which appeared approximately 150 times were deliberately replaced with the phrase D; (3) the changes occurred shortly after the Supreme Court held that creation science is religious and cannot be taught in public school science classes in Edwards. This word substitution is telling, significant, and reveals that a purposeful change of words was effected without any corresponding change in content...This compelling evidence strongly supports Plaintiffs’ assertion that ID is creationism re-labeled. Importantly, the objective observer, whether adult or child, would conclude from the fact that Pandas posits a master intellect that the intelligent designer is God.”<sup>39</sup>

During the course of the trial, an election removed the advocates of ID from the school board and replaced them with supporters of evolution who, happy with Judge Jones’s decision, chose not to appeal it to the Supreme Court.<sup>40</sup> This has led the Discovery Institute to note that Judge Jones’s decision lacks the weight of precedent of a Supreme Court decision, leaves teachers free to teach ID everywhere in the country except in Judge Jones’s jurisdiction, and lets ID’s advocates work not only for the teaching of ID but for the development of other strategies as well.<sup>41</sup>

Since the resolution of the *Dover* case, the Discovery Institute and other supporters of ID have been advocating that public school teachers be granted the “academic freedom” to “teach the controversy” between evolution and ID and offer a “critical analysis” of evolution and ID in public schools.

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<sup>37</sup>The main purpose of *Of Pandas and People* was to supply the “scientific rationale” for Intelligent Design, according to Percival Davis and Dean H. Kenyon, *Of Pandas and People*, 2<sup>nd</sup> ed. (Dallas: Haughton Publishing Company, 1993), viii.

<sup>38</sup>The statement is printed in full in the decision for *Tammy Kitzmiller, et al. v. Dover Area School District, et al.* (400 F. Supp. 2d 707 (Middle District of Pennsylvania 2005), posted at The Talk Origins Archive: Exploring the Creation/Evolution Controversy, “Kitzmiller v. Dover Area School District,” [http://www.talkorigins.org/faqs/dover/kitzmiller\\_v\\_dover\\_decision.html](http://www.talkorigins.org/faqs/dover/kitzmiller_v_dover_decision.html)(accessed December 20, 2016).

<sup>39</sup>Ibid.

<sup>40</sup>Larsen, *Summer for the Gods*, 293.

<sup>41</sup>Center for Science and Culture, “The Theory of Intelligent Design: Educator’s Briefing Packet,” 14,<https://www.discovery.org/f/1453> (accessed December 27, 2016). Also see <http://www.discovery.org/scripts/viewDB/filesDB-download.php?command=download&id=875>.

The Discovery Institute says it actually opposes the mandatory teaching of ID:

“All of the major pro-intelligent design organizations oppose any efforts to require the teaching of intelligent design by school districts or state boards of education. The mainstream ID movement agrees that attempts to mandate teaching about intelligent design only politicize the theory and will hinder fair and open discussion of the merits of the theory among scientists and within the scientific community.”<sup>42</sup>

In fact, the Discovery Institute says it “opposed the Dover policy [of reading the statement about Intelligent Design as an alternative to evolution and recommending that students consult *Of Pandas and People*] from the start and urged the Dover school board to repeal it.”<sup>43</sup>

The Discovery Institute says it advocates that schools should

Teach More About Evolution: Instead of mandating intelligent design, the major pro-ID organizations seek to increase the coverage of evolution in textbooks by teaching students about both scientific strengths and weaknesses of evolution. Most school districts today teach only a one-sided version of evolution which presents only the facts which supposedly support the theory. But most pro-ID organizations think evolution should be taught as a scientific theory that is open to critical scrutiny, not as a sacred dogma that can’t be questioned.<sup>44</sup>

Concerning the need to “protect academic freedom,” the Discovery Institute argues that

“Although pro-ID organizations do not advocate requiring the teaching of intelligent design in public schools, they also believe there is nothing unconstitutional about voluntarily discussing the scientific theory of design in the classroom. Pro-ID organizations oppose efforts to persecute individual teachers who may wish to discuss the scientific debate over design in an objective and pedagogically appropriate manner.”<sup>45</sup>

The Discovery Institute claims great success in advancing “teaching the controversy” and protecting “academic freedom,” citing the adoption of such policies in Minnesota, New Mexico, Alabama, Pennsylvania, Missouri, South Carolina, Mississippi, and Wisconsin. Particularly noteworthy are the laws passed in Louisiana—the first state to adopt a “teach the controversy” policy after Dover, and in Tennessee, home of the Butler Act and the Scopes Monkey Trial.<sup>46</sup>

The Louisiana Science Education Act requires that state and local public education officials “Create and foster an environment within public elementary and secondary schools that promotes critical thinking skills, logical analysis, and open and objective discussion of scientific theories being studied including, but not limited to, evolution, the origins of life, global warming, and human cloning.” It adds that its provisions “shall not be construed to promote any religious doctrine, promote discrimination for or against a particular set of religious beliefs, or promote discrimination for or against religion or nonreligion.”<sup>47</sup>

The Tennessee law—called the “Tennessee Academic Freedom Law” by its supporters and the “Monkey Law” by its detractors—has similar provisions. The Act says its purpose, like that of the Louisiana Act, is to require the creation of “an environment within public elementary and secondary schools that encourages students to explore scientific questions, learn about scientific evidence, develop critical thinking skills, and respond appropriately and respectfully to differences of opinion about scientific subjects required to be taught under the curriculum framework developed by the state board of education.” These “scientific subjects may include,” but are “not limited to, biological evolution, the chemical origins of life, global warming, and human cloning.” The act

<sup>42</sup>Center for Science and Culture, “What is Intelligent Design?” Darwinian Evolution, Intelligent Design and Education Policy, <http://www.intelligentdesign.org/education.php> (accessed December 27, 2016).

<sup>43</sup>Center for Science & Culture, “Educator’s Briefing Packet,” 9.

<sup>44</sup>Center for Science and Culture, “Darwinian Evolution, Intelligent Design and Education Policy.”

<sup>45</sup>Ibid.

<sup>46</sup>Center for Science and Culture, “Educator’s Briefing Packet,” 18-19.

<sup>47</sup>The text of the act can be found at <http://www.legis.la.gov/legis/ViewDocument.aspx?d=503483> (accessed December 22, 2016).

emphasizes that no state or local public education official “shall prohibit any teacher in a public school system of this state from helping students understand, analyze, critique, and review in an objective manner the scientific strengths and scientific weaknesses of existing scientific theories covered in the course being taught within the curriculum framework developed by the state board of education.” But, the Act “only protects the teaching of scientific information, and shall not be construed to promote any religious or non-religious doctrine, promote discrimination for or against a particular set of religious beliefs or non-beliefs, or promote discrimination for or against religion or non-religion.”<sup>48</sup>

Notwithstanding the emphasis placed in both the Louisiana and Tennessee acts, as well as in the Discovery Institute’s literature, on teaching only science and not religion, their pro-evolution critics charge that the purpose of these acts is to allow the reintroduction of creationism/ID into the classroom under the guise of debating “differences of opinion” and otherwise participating in “open and objective discussion” of theories pertaining to evolution and other scientific topics. This concern may be behind recent efforts to change Texas’s curriculum standards relevant to the teaching of evolution in its public schools.

No school board in America has more power over curriculum issues than the Texas State Board of Education. Its fifteen members, elected by party to four-year terms, approve the curricula for Texas’s public schools, and each year buy or distribute forty-eight million textbooks to its children.

And the influence of the SBOE extends well beyond Texas. Texas is the largest state with centralized adoption and purchase of textbooks. Therefore the nation’s textbook publishers, eager to do business in Texas’s vast market, produce books to conform to the SBOE’s curriculum standards. Other state and local school boards, knowing the reluctance of publishers to produce alternative versions of their texts, accept Texas’s guidelines and purchase books initially written for the Texas market. It is estimated that currently as many as forty seven states use books written for Texas’s school children.<sup>49</sup>

In April 2017 the SBOE revisited the question of how to teach evolution. At issue was whether four curriculum requirements for teaching high school biology should be removed from the set of Texas Essential Knowledge and Skills (TEKS) mandated by the State Board of Education. Those advocating the removal claimed that they merely want to “streamline” the requirements to be met, arguing that the requirements were too numerous and possibly too intellectually demanding for high school students to meet. Yet both supporters of evolution, and supporters of creationism and/or ID, claim that certain phrases in the standards as they were written in the last most recent version of the TEKS standards before revision in April, 2017, reflected support for the introduction of creationism or ID into the classroom, despite the emphasis placed on the teaching of science and the absence of any explicit reference to creationism, ID, or religion. Therefore, if the standards remained unchanged, the possibility that creationism or ID could be introduced into the classroom would increase.<sup>50</sup> The standards in question, their putative hidden meanings, and how the standards were revised in the “streamlining” process were as follows.

“3. (A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student.”<sup>51</sup>

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<sup>48</sup>The act is referred to as the Monkey Law by the National Center for Science Education, an ardent supporter of evolution and opponent of ID. The Center published the text of the Act at <https://ncse.com/library-resource/text-monkey-law-hb-368sb-893> (accessed December 22, 2016). The term Monkey Law, or Monkey Bill was widely used in Tennessee when the act was being considered by the legislature. See Helen Thompson, “Tennessee monkey bill becomes law,” *nature.com*, April 11, 2012, <http://www.nature.com/news/tennessee-monkey-bill-becomes-law-1.10423> (accessed December 22, 2016).

<sup>49</sup>Russell Shorto, “How Christian Were the Founders?” *New York Times Magazine*, 14 February 2010, posted on <http://www.nytimes.com/2010/02/14/magazine/14texbooks-t.html?em=&pagewanted=print>. The article is a fascinating and invaluable analysis of the politics and processes by which the Texas State Board of Education develops curriculum standards, although its focus is on the development of social science standards.

<sup>50</sup>Julie Chang, “How evolution is taught in Texas schools may stir new fight,” Austin American-Statesman, September 26, 2016, <http://www.mystatesman.com/news/state--regional-govt--politics/how-evolution-taught-texas-schools-may-stir-new-fight/zDppfaDrQ7jxDILkJD8CMM/> (accessed December 6, 2016).

<sup>51</sup>Chapter 112. Texas Essential Knowledge and Skills for Science, Subchapter C. High School 21, 2016). High school science

Pro-evolution, anti-creationism/ID critics contend that the assertion that there is more than “one side” “of scientific evidence of those scientific explanations” and that “all sides” be examined implies that there is more merit to creationism/ID than the facts otherwise merit, and that creationism/ID may be introduced into the classroom to help explore all sides.<sup>52</sup>The “streamlined” version of the rule omitted “including all sides of scientific evidence of those scientific theories,”<sup>53</sup> a change perhaps considered insignificant to most readers, but an apparent victory for the pro-evolution forces.

“7. (B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record.”<sup>54</sup>

A major argument advanced by both creationists and believers in ID is that the fossil record shows both the “sudden explosion” of species in the Cambrian geological era, and the maintenance of species’ forms over periods of time thereafter. The implication is that species were created suddenly and simultaneously by an Intelligent Designer (God?) and thereafter underwent no significant changes. Believers in evolution dispute the interpretation of the fossil record, maintaining that intermediate changes in species can, in fact, be documented through the analysis of fossils.<sup>55</sup>

The revised standard said that students should “examine scientific explanations of abrupt appearance and stasis in the fossil record.”<sup>56</sup>The new version of this standard seemed to be a watered-down version of the previous standard, reflecting a partial victory for believers in evolution, yet supporters of Intelligent Design could nonetheless claim a partial victory because the concepts of “abrupt change and stasis in the fossil record,” central to their anti-evolution argument, remained in the curriculum guidelines.

“7. (G) analyze and evaluate scientific explanations concerning the complexity of the cell.”<sup>57</sup>

One of the arguments developed by ID theorist Michael Behe is that of “irreducible complexity.” An irreducibly complex structure, process, or system, says Behe, cannot have evolved. Therefore, it must have been designed. He describes an irreducibly complex system as

“a single system composed of several well-matched, interacting parts that contribute to the basic function, wherein the removal of any one of the parts causes the system to effectively cease functioning. [It] cannot be produced directly (that is, by continuously improving the initial function, which continues to work by the same mechanism) by slight, successive modifications of a precursor system, because any precursor to an irreducibly complex system that is missing a part is by definition nonfunctional...Since natural selection can only choose systems that are already working, then if a biological system cannot be produced gradually it would have to arise as an integrated unit, in one fell swoop, for natural selection to have anything to act on.”<sup>58</sup>

<sup>52</sup>final recommendations (texas.gov), 3. (accessed December 29, 2021).

<sup>53</sup>Texas Freedom Network Education Fund, “Texas Science Curriculum Standards: Recommendations for Dealing with Pedagogical and Scientific Problems, 2012, 2-3, [http://tfn.org/cms/assets/uploads/2015/11/TFNEF\\_Report\\_-\\_Science\\_TEKS\\_Analysis.pdf](http://tfn.org/cms/assets/uploads/2015/11/TFNEF_Report_-_Science_TEKS_Analysis.pdf) (accessed December 21, 2016).

<sup>54</sup>[https://texreg.sos.state.tx.us/public/readtac\\$ext.TacPage?sl=R&app=9&p\\_dir=&p\\_rloc=&p\\_tloc=&p\\_ploc=&pg=1&p\\_tac=&ti=19&pt=2&ch=112&rl=34](https://texreg.sos.state.tx.us/public/readtac$ext.TacPage?sl=R&app=9&p_dir=&p_rloc=&p_tloc=&p_ploc=&pg=1&p_tac=&ti=19&pt=2&ch=112&rl=34) (accessed December 29, 2021). These are the standards actually adopted. The standards can be more easily accessed with this link: Texas Administrative Code (state.tx.us)

<sup>55</sup>High school science final recommendations (texas.gov). 4. (accessed December 29, 2021).

<sup>56</sup>Texas Freedom Network, “Curriculum Standards,” 4-6. See Also, Miller, *Finding Darwin’s God*, 84-90, 108-115, and 120-121.

<sup>57</sup>Texas Administrative Code (state.tx.us)

<sup>58</sup>High school science final recommendations (texas.gov), 4. (accessed December 29, 2021).

<sup>59</sup>Michael Behe, *Darwin’s Black Box* (New York: Touchstone, 1996), 39. Miller disputes Behe’s theory, citing many examples of biological structures and functions cited by Behe as being irreducibly complex, yet showing how they could have evolved over time in *Finding Darwin’s God*, 131-164.

Evolution's supporters say discussions of the complexity of the cell might lead to claims that it is "irreducibly complex," thereby inviting a discussion of ID, for which the concept of irreducible complexity is one of the foundations.<sup>59</sup> No doubt they were pleased that this standard was eliminated.<sup>60</sup>

"9. (D) analyze and evaluate the evidence regarding formation of simple organic molecules and their organization into long complex molecules having information such as the DNA molecule for self-replicating life."<sup>61</sup>

Another concept fundamental to ID, developed by ID theorist William Dembski, is the "law of conservation of information," meaning that natural causes cannot produce the complex and specific information carried by the DNA molecule; therefore an Intelligent Designer had to do so.<sup>62</sup> To include this standard, argue supporters of evolution, is to raise the possibility that Dembski's "law" will be introduced in the classroom. Indeed, the initial writer of the standard, a Young Earth Creationist, admitted that the standard reflected the testimony of an ID theorist.<sup>63</sup> This standard, too, was eliminated in the April, 2017 revisions—another victory for the pro-evolution forces.<sup>64</sup>

The TEK standards o the teaching of evolution in high school biology classes are currently being re-examined for possible revision again. The proposed new standards, approved by the Texas State Board of Education on November 20, 2020, say:

(10) Science concepts--biological evolution. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life that has multiple mechanisms. The student is expected to:

(A) analyze and evaluate how natural selection produces change in populations and not in individuals;

(B) analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive,

and a finite supply of environmental resources, result in differential reproductive success;

(C) analyze and evaluate how natural selection may lead to speciation; and

(D) analyze evolutionary mechanisms other than natural selection, including genetic drift, gene flow, mutation, and genetic recombination, and their effect on the gene pool of a population.<sup>65</sup>

Noteworthy in the standards adopted in 2020 is the apparent absence of any language explicitly requiring the examination of "all sides" of the issue of evolution, the "sudden appearance" of species, or the "complexity," irreducible or otherwise, of the cell or anything else. Given the outsized impact of the decisions on Texas's high school curricula on the shaping of the curricula and the selection of textbooks for most other states, the newly adopted standards have nationwide significance.

But it would be wrong to conclude that evolution's supporters have won the debate over the inclusion of evolution in, and the exclusion of faith-based rival theories from, high school biology curricula in Texas or any other state. Whatever victory that can be claimed may only be temporary. If the past is any guide to the future, new faith-based challenges to the teaching of evolution will be developed. After all, there will always be "something else," thereby proving, if nothing else, the prescience of Henry Drummond and his creators.

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<sup>59</sup>Texas Freedom Network, "Curriculum Standards," 7-8.

<sup>60</sup>Texas Administrative Code (state.tx.us)

<sup>61</sup>High school science final recommendations (texas.gov), 5. (accessed December 29, 2021).

<sup>62</sup>William A. Dembski, *Intelligent Design: The Bridge between Science & Theology* (Downers Grove, Illinois: IVP Academic, 1999), 170.

<sup>63</sup>Texas Freedom Network, "Curriculum Standards," 9-10.

<sup>64</sup>Texas Administrative Code (state.tx.us)

<sup>65</sup>Proposed New 19 TAC Chapter 112 Science TEKS Subchapter C (texas.gov), 4-5. (Accessed December 29, 2021)